

REMARKS

Claims 131-144 are pending. For the purposes of expediting prosecution, and without acquiescing to the Examiner's rejections, Claims 131, 136, and 141 has been amended to more clearly describe the claimed invention. Support for these amendments can be found, for example, in Figure 3, page 20 lines 20-22, and page 51 lines 3-19, all with reference to the layout of the originally filed application. No new matter is believed to have been added by the amendment.

Rejection of Claims 131-135 and 141-144 under §103

The Examiner asserted that Claims 131-135 and 141-144 are obvious over Jenkins (APMIS (1991) 99:667-673, hereinafter "Jenkins") in view of Grossman et al. (U.S. Patent 5,514,543, hereinafter "Grossman"). The Examiner found that

... the region marked 4 in Hpv6b is 20 nucleotides in length and is not complementary with the other loci in HPV11, HPV16, HPV18 and HPV33. The claim lacks a requirement that the amplification product's addressable support region is not complementary to itself (*Citing* Figure 1 of Jenkins). (Action at p. 4)

The Examiner acknowledged that Jenkins does not disclose the use of a tail which imparts to each mobility modifier a distinct mobility relative to the other mobility modifiers. (Action at p. 5). However, the Examiner has found that Grossman makes up for this teaching a method for detection of amplified nucleic acids with unique sequence, and cites Figure 19 of Grossman.

The Examiner concluded that one of skill in the art would have been motivated to combine the teachings of Jenkins with the teachings of Grossman

because Grossman teaches “a rapid, single assay format for detecting the presence or absence of multiple selected sequences in a polynucleotide sample” (citing Grossman column 2, lines 61-63). The Examiner then concludes that “[a]n ordinary practitioner would have been motivated to use the mobility modifiers of Grossman in o[r]der to permit more accurate and single assay detection of the different HPV types of Jenkins. Action at p. 6).

In order to demonstrate a *prima facie* case of obviousness, three showings must be established by the Patent Office. First, each of the elements must be taught by the references or generally known in the art. Second, there must be a motivation for one of skill in the art to combine each of the elements to form the claimed combination. Finally, one of skill in the art must have some expectation that the combination would be successful.

Applicants disagree and submit that a *prima facie* case of obviousness has not been established. Specifically, the references cited by the Examiner do not teach each element of Applicants claimed invention. Applicants have amended claims 131 and 141 to include the following element:

. . .wherein the addressable support-specific portion is not substantially complementary with any of the different loci and is not substantially complementary with the complement of any of the different loci. . .

Applicants note that Jenkins, nor Grossman, nor the combination of Jenkins and Grossman, teaches this element of Applicants’ claimed invention. Thus, not every element has been taught by the cited art.

As Claims 131 and 141 are non-obvious, and Claims 132-134 depend from Claim 131, and Claims 142-144 depend from Claim 141, Claims 132-134 and 142-144 are also non-obvious. Applicants respectfully request that the rejection be withdrawn and the claims allowed.

Rejection of Claims 131-144 under §103

The Examiner asserted that Claims 131-144 are obvious over Whitcombe (GB 2,312,747, hereinafter “Whitcombe”) in view of Grossman (referred to above). The Examiner found that:

. . . Whitcombe teaches a composition of claims 131-144 comprising (i) a plurality of different amplification products drawn to different loci (see page 7, lines 6-25, where Whitcombe teaches that the ARMS based technique can be used. . . ” (Action at p. 7)

The Examiner acknowledged that Whitcombe does not disclose the use of a tail which imparts to each mobility modifier a distinct mobility relative to the other mobility modifiers. (Action at p.10). However, the Examiner has found that Grossman makes up for this teaching a method for detection of amplified nucleic acids with unique sequence, and cites Figure 19 of Grossman.

The Examiner concluded that one of skill in the art would have been motivated to combine the teachings of Whitcombe with the teachings of Grossman because Grossman teaches “a rapid, single assay format for detecting the presence or absence of multiple selected sequences in a polynucleotide sample” (citing Grossman column 2, lines 61-63). The Examiner then concludes

that "An ordinary practitioner would have been motivated to use the mobility modifiers of Grossman in o[r]der to permit more accurate and single assay detection of the different alleles of Whitcombe in a multiplex format as desired by Whitcombe. Action at p. 11).

As the Examiner no doubt appreciates in order to demonstrate a *prima facie* case of obviousness, each of the elements must be taught by the references or generally known in the art.

Applicants submit that a *prima facie* case of obviousness has not been established. Specifically, the references cited by the Examiner do not teach each element of Applicants claimed invention. Applicants have amended independent Claims 131, 136, and 141 to include the following element:

. . . a plurality of different amplification products which have been amplified from a plurality of different ligation products querying a plurality of different loci. . .

Applicants note that Whitcombe does not teach this element of Applicants' claimed invention. Thus, not every element has been taught by the cited art. For at least this reason, rejection of Claims 131, 136, and 141 under 103 is improper.

As Claims 131, 135, and 141, are non-obvious, and Claims 132-134 depend from Claim 131, and Claims 136-140 depend from Claim 135, and Claims 142-144 depend from Claim 141, Claims 132-134, Claims 136-140, and Claims 142-144 are also non-obvious. Applicants respectfully request that the rejection be withdrawn and the claims allowed.

VI. Conclusion

Applicants respectfully request reconsideration of the application and the timely issuance of a Notice of Allowance. In the event that the Examiner does not find the claims allowable, Applicants request that the Examiner contact the undersigned at (650) 554-3392 to set up an interview.

FEE AUTHORIZATION

If any fees not submitted with this response are required, please charge such fees from Applied Biosystems Deposit Account No 01-2213 (**Order No. 4448**).

Respectfully submitted,

Date: July 20, 2006

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